



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,298	11/29/2001	David Lee Sandbach	9637-000034	1109

27572 7590 08/22/2005

HARNESSE, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER

NGUYEN, CHAU N

ART UNIT PAPER NUMBER

2831

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,298

Applicant(s)

SANDBACH, DAVID LEE

Examiner

Chau N. Nguyen

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-23 and 25-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-23 and 25-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/29/01 & 4/29/02.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 3 and 26 are objected to because of the following informalities:

in claim 3, line 8, delete "first",

in claim 3, line 10, change "to" to --from--,

in claim 3, line 11, delete "first",

in claim 26, line 7, delete "first",

in claim 3, line 9, change "to" to --from--,

in claim 3, line 10, delete "first". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4, 27 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to

make and/or use the invention. The specification does not provide detailed description supporting the claimed subject matter of "the second conducting layer has conductive yarn extending in a first direction and conductive yarn extending in a second direction, the first direction being different to the second direction".

More specifically, the disclosure only provides support for the second conducting layer having conductive yarn extending in a first direction and non-conductive yarn extending in a second direction, the first direction being different from the second direction.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 25, 26, 28-30, and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Braue (3,617,666).

Braue discloses a detector (Figures 2, 3, 5, and 6) constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein a first conducting

layer (3) is displaced from a second conducting layer (5) such that conduction between the layers results when the layers are mechanically forced together, the first layer has a plurality of lengths of conductive yarn (13) and a plurality of lengths of non-conductive yarn (14) machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn, a plurality of electrical conductors (22) are connected to the conductive yarns of the first conducting layer thereby electrically grouping (group of one) the conductive yarns to define a plurality of identifiable rows, thereby defining specific regions of the detector, each of the identifiable row has one of the electrical conductors, a force is applied at a position by a mechanically interaction, and a potential gradient is applied across at least one of the specific regions to determine the position of the force applied by the mechanical interaction (re claim 25). Braue also discloses the second conducting layer (5) having a plurality of lengths of conductive yarn and a plurality of non-conductive yarn machined therein, such that at least one length of the conductive yarn is electrically isolated from another of the lengths of conductive yarn, the first of said conducting layers having conductive yarn extending in a first conducting direction and the second of said conducting layers having conductive yarn extending in a second conducting direction, the first conducting direction of the first conducting layer being different

from the second conducting direction of the second conducting layer (re claim 26), a mechanical interaction having a first property and the detector being configured to present a first set of varying electrical characteristics in response to said first property of the mechanical interaction such that each varying electrical characteristic of said set of varying electrical characteristics corresponds to one of said specific regions (re claim 28), a partially electrical conducting layer of fabric (26) being disposed between the first and second conducting layers (re claim 29), the first and second conducting layers being separated by two layers of electrically insulating fabric (4, 4a) and the two layers of insulating fabric being separated by an electrically conducting layer of fabric (26) (re claims 30, 35 and 36), and the fabric being constructed by a weaving or knitting process (re claims 33 and 34).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5-13, 15-17, 20-23, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braue.

Braue discloses the invention substantially including each identifiable conductive row having a conductor (22) connected thereto at one end. Braue does not disclose the other opposite end of each conductive row also connected to another conductor. However, it would have been obvious to one skilled in the art to connect an electrical conductor at the other opposite end of each row of Braue to provide an electrical connection between the conductive fabric and two electronic components since providing electrical connection at two ends of an electrical conductive layer is well-known in the art. In addition, it has been held that merely duplicating the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 (re claims 1 and 31).

Braue also discloses the conductive yarn of said first layer extending in a first direction and said non-conductive yarn of said first layer extending in a second direction, said first direction being different from said second direction (re claim 2), the second of said conducting layers having a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn, the first of said conducting layers

having conductive yarn extending in a first conducting direction and the second of said conducting layers having conductive yarn extending in a second conducting direction, the first conducting direction of the first conducting layer being different from the second conducting direction of the second conducting layer and intersections of said columns and said rows define specific regions of the detector (re claim 3), said second conducting layer having non-conductive yarn extending in a first direction and conductive yarn extending in a second direction, said first direction being different from said second direction (re claim 5), a mechanical interaction having a first property and said detector being configured to present a first set of varying electrical characteristics in response to said first property of the mechanical interaction such that each varying electrical characteristic of said set of varying electrical characteristics corresponds to one of said specific regions (re claim 6), a degree of pressure being applied by a mechanical interaction and a varying electrical characteristic varying with the degree of pressure applied by the mechanical interaction (re claim 7), a force being applied at a position by a mechanical interaction and a varying electrical characteristic varying with the position of the force applied by the mechanical interaction (re claim 8), the mechanical interaction having a second property, said second property being different from the force applied by the mechanical interaction, and said detector is

configured to present a second set of varying electrical characteristics in response to said second property of the mechanical interaction (re claim 9), said second property being the degree of pressure applied by the mechanical interaction (re claim 10), a partially electrically conducting layer of fabric (26) being disposed between said first and second conducting layers (re claim 11), said first conducting layer and said second conducting layer being separated by two layers of electrically insulating (4, 4a) separated by a partially electrically conducting layer of fabric (26) (re claim 12), a force being applied at a position by a mechanical interaction and a potential gradient being applied across at least one of said specific regions to determine the position of the force applied by the mechanical interaction (re claim 13), each of identifiable column having an electrical conductor at each of its opposing ends (re claim 15), said first and second conducting layers constituting single fabric which is constructed to comprise an upper portion and a lower portion, said upper portion comprising non-conductive yarn having insulating fibers extending in a weft direction and conductive yarn having conducting fibers extending in a warp direction, and said lower portion comprising conductive yarns having conducting fibers extending in said weft direction and non-conductive yarns having insulating fibers extending in said warp direction (re claims 16 and 32), said upper and lower portions being periodically attached by the inclusion of

one of the non-conductive yarns from one of the upper and lower portions in the other of the upper and lower portions (re claim 17), and the fabric being constructed by weaving or knitting process (re claims 20 and 21). Re claims 22 and 23, it has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

8. Claims 4, 27 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braue in view of Larson (3,056,005).

Braue discloses the invention substantially as claimed except for the second conducting layer having conductive yarn extending in a first direction and conductive yarn extending in a second direction, the first direction being different from the second direction. Larson discloses a conductive mat comprising two conducting layers, wherein the second layer comprises conductive yarn extending

in a first direction and conductive yarn extending in a second direction, the first direction being different from the second direction. It would have been obvious to one skilled in the art to use the second conducting layer as taught by Larson for the second conducting layer of Braue to increase the electrical contact between the two conducting layers.

9. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braue in view of Lipka (5,047,602).

Claims 18 and 19 in addition to the limitations of claim 1 recite the insulating fibers in the first and second conducting layers standing proud of the conducting fibers and having a larger diameter than the conducting fibers. Lipka discloses a conductive mat comprising conducting layer (1), wherein the insulating fibers (3) in the layer stands proud of the conducting fibers (2). It would have been obvious to one skilled in the art to apply the teaching of Lipka in the mat of Braue to prevent the two conducting layers from being electrically connected without the mechanical force being applied. It would also have been obvious to one skilled in the art to choose insulating fibers of Braue having diameter larger than that of the conducting fibers to further isolated the two conducting layers since it is taught by

Braue that the two conducting layers will only be electrically connected when force is applied to the mat.

Response to Arguments

10. Applicant's arguments with respect to claims 1, 25, and 35-37 have been considered but are moot in view of the new ground(s) of rejection.

Summary

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Chau N Nguyen", with a long horizontal flourish extending to the right.

Chau N Nguyen
Primary Examiner
Art Unit 2831